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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	:	Customer Number: 46320
	:	
Robert HARRIS	:	Confirmation Number: 6488
	:	
Application No.: 10/531,246	:	Group Art Unit: 3689
	:	
Filed: April 14, 2005	:	Examiner: G. Araque Jr.
	:	
For: METHOD AND SYSTEM FOR RANKING SERVICES IN A WEB SERVICES ARCHITECTURE		

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed November 17, 2009, wherein Appellant appeals from the Examiner's rejection of claims 1, 13, and 20-37.

I. REAL PARTY IN INTEREST

This application is assigned to IBM Corporation by assignment recorded on April 14, 2005, at Reel 017329, Frame 0025.

II. RELATED APPEALS AND INTERFERENCES

Appellant is unaware of any related appeals and interferences.

III. STATUS OF CLAIMS

Claims 1, 13, and 20-37 are pending and rejected. Claims 2-12, and 14-19 have been cancelled. It is from the multiple rejections of the claims that this Appeal is taken.

IV. STATUS OF AMENDMENTS

The claims have not been amended subsequent to the imposition of the Second and Final Office Action dated August 17, 2009 (hereinafter the Second Office Action).

V. SUMMARY OF CLAIMED SUBJECT MATTER

1 Referring to Figs. 4A, 4B, and 5B and also to independent claim 1, a method for ranking
2 services in a web services computer hardware architecture having a hierarchy 400 of services
3 406, 408, 410 with a root originating service requestor 401 is disclosed. A service 406 of a first
4 level 402 in the hierarchy 400 calls a service 408 of a lower level 403. In 521, a preference is
5 indicated regarding at least one service (page 13, lines 9-10), and based upon the preference, a
6 ranking machine 405 uses a choice algorithm (page 13, lines 6-8). In 525, services of at least
7 one level of hierarchy 400 are invoked (page 13, lines 19-20). A set of possible lower-level
8 services are found, by a service, using a directory 411 at each level of the hierarchy 400 (page
9 10, line 32 through page 11, line 1). The choice algorithm is applied to the set of possible lower-
10 level services (page 11, lines 1-6).

11 Referring to Figs. 4A, 4B, and 5B and also to independent claim 13, a web services
12 computer hardware architecture is disclosed. The architecture includes a root originating service
13 requester 401, a database, a directory 411, and a ranking machine 405 (page 10, lines 7-16). The
14 database stores a hierarchy 400 of services 406, 408, 410 in which a service 406 of a first level

1 402 calls a service 408 of a lower level 403 (page 9, line 35 through page 10, line 8; page 11,
2 lines 15-22). The directory 411 is used for finding services in the hierarchy 400 (page 10, lines
3 8-10). The ranking machine 405 is configured to apply a choice algorithm for services based on
4 the originating service requestor's preference regarding one or more services (page 10, lines 17-
5 22). At each level 402, 403 of the hierarchy 400, the directory 411 provides a set of possible
6 services (page 10, line 36 through page 11, line 1) and the ranking machine 405 applies the
7 choice algorithm to provide a sequence of preferred services (page 11, lines 28-31).

8 Referring to Figs. 4A, 4B, and 5B and also to independent claim 20, a computer program
9 product for a web services architecture having a hierarchy 40 of services 401, 406, 408, 410 with
10 a root originating service requestor 401 is disclosed. A service 406 of a first level 402 calls a
11 service 408 of a lower level 403. The computer program product comprises computer readable
12 medium having computer readable program code embodied therein and configured to cause a
13 computer to perform the following operations. In 521, a preference is indicated regarding at
14 least one service (page 13, lines 9-10), and based upon the preference, a ranking machine 405
15 uses a choice algorithm (page 13, lines 6-8). In 525, services of at least one level of hierarchy
16 400 are invoked (page 13, lines 19-20). A set of possible lower-level services are found, by a
17 service, using a directory 411 at each level of the hierarchy 400 (page 10, line 32 through page
18 11, line 1). The choice algorithm is applied to the set of possible lower-level services (page 11,
19 lines 1-6).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1, 13, 21-27, and 31 were rejected under the first paragraph of 35 U.S.C. § 112;
2. Claims 1, 13, and 21-27 were rejected under the second paragraph of 35 U.S.C. § 112;

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3. Claims 1 and 21-31 were rejected under 35 U.S.C. § 101;
4. Claims 1, 13, 20, and 27-37 were rejected under 35 U.S.C. § 103 for obviousness based upon Mendelevitch et al., U.S. Patent Publication No. 2003/0130993 (hereinafter Mendelevitch).

VII. ARGUMENT

THE REJECTION OF CLAIMS 1, 13, 21-27, AND 31 UNDER THE FIRST PARAGRAPH OF 35

U.S.C. § 112

For convenience of the Honorable Board in addressing the rejections, claims 21-27 stand or fall together with independent claim 1, claim 13 stands or falls alone, and claim 31 stands or falls alone.

Although the Examiner did not refer to claim 31 in the title portion of the statement of rejection on page 4 of the Second Office Action, Appellant notes that the Examiner did refer to claim 31 in the last full paragraph on page 4 of the Second Office Action. Therefore, Appellant proceeds under the assumption that the Examiner intended to reject claim 31 under the first paragraph of 35 U.S.C. § 112.

Claim 1

Referring to page 4 of the Second Office Action, the Examiner asserted the following:

Specifically, the Examiner asserts that there is no support for
(1 and 13) computer hardware,
the step of finding a set of possible lower-level services, by a service (i.e. the service
finding a set of possible lower-level services),

At the outset, Appellant notes that claims 1 and 13 do not recite "computer hardware" in isolation. Instead, claims 1 and 13 recites a "web services computer hardware architecture."

Referring to paragraph [0003] of Appellant's disclosure, it is stated that "[w]eb services are implemented in a network." Referring to paragraph [0042], Fig. 4B is described as "a schematic block diagram of a web services architecture in accordance with the present invention." As known by those skilled in the art, the term architecture refers to "the manner in which the

1 components of a computer or computer system are organized and integrated."¹ Thus, the
2 discussion of a network and a web services architecture within Appellant's specification provides
3 adequate support for the term "web services computer hardware architecture" since one skilled in
4 the art would recognize that computer hardware is associated with both a network and a
5 computer architecture.

6
7 With regard to the claimed "finding a set of possible lower-level services by a service,"
8 reference is made to paragraph [0072] of Appellant's specification, which is reproduced below:

9 In the illustrated example of FIGS. 4A and 4B, a service requestor 401 wishes to use the
10 service of an intermediate service provider of the first level 402 which involves using a lower level
11 service. However, the fact that any lower level service is used is not revealed to the service
12 requestor 401. The service requestor 401 carries out a search using the directory 411 for service
13 providers of the first level 402 and obtains a sequence of possible service providers 402. The
14 sequence of possible service providers 402 has been filtered by the ranker machine 405 to remove
15 obvious non-contenders or to force a specific selection (i.e. if only one result is in the bag). If there
16 is more than one result in the bag, the service requestor 401 chooses one of the service providers
17 406 of the first level 402. (emphasis added)
18

19 Referring to the underlined portion of the above-reproduced passage, Appellant respectfully
20 submits that adequate descriptive supports exists for the claimed limitation of "finding a set of
21 possible lower-level services by a service,"
22

23 Claim 13

24 Referring to page 4 of the Second Office Action, the Examiner asserted the following:

25 Specifically, the Examiner asserts that there is no support for
26 ...
27 **(Claim 13)** a database.
28

29 At the outset, Appellant notes that claim 13 does not recite "a database" in isolation. Instead,
30 claim 13 recites "a database storing a hierarchy of services in which a service of a first level calls
31 a service of a lower level." As would be recognized by those skilled in the art, a web services

¹ <http://www.merriam-webster.com/dictionary/architecture>.

1 hierarchy of services (see paragraphs [0066]-[0067] of Appellant's specification) is a data
2 structure. As recited in claim 13, the directory finds services in the hierarchy. As also would be
3 recognized by those skilled in the art, in order for a directory to find information (e.g., services)
4 in a data structure (i.e., a hierarchy), the data structure is required be stored in some type of
5 database. Thus, clear support for the term "database" is found within Appellant's specification.

6
7 Claim 31

8 Referring to page 4 of the Second Office Action, the Examiner asserted the following:

9 Specifically, the Examiner asserts that there is no support for
10 ...
11 **(Claim 31)** upon a stored preference not being available, the service using the directory
12 making the selection

13
14 Original claims constitute their own description. In re Koller, 613 F.2d 819, 204 USPQ 702
15 (CCPA 1980). Claim 31 corresponds substantially to original claim 12 (now cancelled), which
16 recited "wherein if there is no stored originating service requestor's preference, the service using
17 the directory (411) makes the selection." Appellant's position is that there are no substantial
18 difference between original claim 12 and claim 31. Thus, clear support for the language recited
19 in claim 31 is found with Appellant's specification.

20
21 **THE REJECTION OF CLAIMS 1, 13, 21-37 UNDER THE SECOND PARAGRAPH OF 35 U.S.C.**

22 **§ 112**

23 For convenience of the Honorable Board in addressing the rejections, claims 13, 21-28,
24 and 32-37 stand or fall together with independent claim 1; claim 29 stands or falls alone; claim
25 30 stands or falls alone; and claim 31 stands or falls alone.

1 Claim 1

2 In the tenth enumerated paragraph on page 5 of the Second Office Action, the Examiner
3 newly presented the following assertions:

4 **Claims 1 and 13** are rejected under 35 U.S.C. 112, second paragraph, as being
5 incomplete for omitting essential steps, such omission amounting to a gap between the steps. See
6 MPEP § 2172.01. The omitted steps are: **the step of ranking the services.** (emphasis in original)
7

8 At the outset, Appellant respectfully submits that the Examiner's reliance upon M.P.E.P. §
9 2172.01 is misplaced. Claim 1 recites "a ranking machine having a choice algorithm based on
10 the preference ... applying the choice algorithm to the set of possible lower-level services," and
11 claim 13 recites limitations. Although not explicitly recited, the ranking of services is already
12 addressed by the above-reproduced claim language. Thus, the Examiner's analysis is misplaced.
13

14 Claim 29

15 In the eleventh enumerated paragraph on page 5 of the Second Office Action, the
16 Examiner newly presented the following assertions:

17 In regards to **claim 29**, it is unclear how the claim is being performed since the service
18 never made a selection to begin with and, as a result, it is unclear what is being overwritten.
19

20 Appellant respectfully submits that the Examiner is confused as to the difference between the
21 first and second paragraphs of 35 U.S.C. § 112. Claims are only required to "particularly [point]
22 out and distinctly [claim] the subject matter which the applicant regards as his invention."² Thus,
23 the claims are not required to "enable" the practice of the claimed invention. Instead, "[t]he
24 specification shall contain a written description of the invention ... to enable any person skilled
25 in the art ... to make and use the same."³ The Examiner's comments, however, are directed to

² Second paragraph of 35 U.S.C. § 112.

³ First paragraph of 35 U.S.C. § 112.

1 how to make and use (i.e., enable) the claimed invention. Thus, the Examiner has failed to
2 establish a prima facie case of indefiniteness under the second paragraph of 35 U.S.C. § 112.

3
4 Claim 30

5 In the twelfth and thirteenth enumerated paragraphs on page 5 of the Second Office
6 Action, the Examiner newly presented the following assertions:

7 **Claim 30** recites the limitation "**the preferred service**" in **line 2 of claim 30**. There is
8 insufficient antecedent basis for this limitation in the claim.

9 In regard to **claim 30**, it is unclear what is meant by "obtained by reference to original
10 preference." Specifically, was there another preference present in the claim, which results in
11 referring back to the original preference? What is the original preference? (emphasis in original)
12

13 Claim 1, upon which claim 30 depends, recites "indicating a preference regarding at least on
14 service." Appellant, therefore, respectfully submits that one having ordinary skill would have no
15 difficult in understanding the scope of claim 30 in that "the preferred service" refers to the
16 preference being indicated regarding the at least one service.

17
18 As to the Examiner's second assertions, the "original preference" was first introduced
19 within claim 30.

20
21 Claim 31

22 In the fourteenth enumerated paragraph on page 5 of the Second Office Action, the
23 Examiner newly presented the following assertions:

24 In regards to **claim 31**, when was the preference stored? Since it was never stored when
25 would this step never occur?
26

27 Yet again, the Examiner confuses enablement under the first paragraph of 35 U.S.C. § 112 with
28 indefiniteness under the second paragraph of 35 U.S.C. § 112. The Examiner question "when
29 was the preference stored?" is not a question of indefiniteness. The preference was stored prior

1 to the step recited in claim 31, which is evident by the claim language itself. The term "stored" is
2 a past participle, which represents a past or completed action. Therefore, the "stored preference"
3 occurred prior to the step at issue (i.e., "upon a stored preference not being available, the service
4 using the directory making the selection").

5
6 The Examiner's rejection is as nonsensical as rejecting a claim directed to "a method of
7 baking a cake comprising the step removing the cake of the oven after the internal temperature of
8 the cake reaches 350 degree Fahrenheit" because it omits the steps of (i) turning on the oven; (ii)
9 placing a cake pan in the oven, (iii) placing cake batter in the cake pan; (iv) mixing the cake
10 batter in a bowl; (v) placing constituents parts of the cake batter into the bowl; (vi) obtaining the
11 cake pan; (vii) obtain the bowl; and ad infinitum. For any claimed method, there are a number of
12 steps that could be omitted (e.g., ranking the services or storing a preference). However, the fact
13 that these steps are not explicitly recited does not render a claim indefinite.

14
15 **THE REJECTION OF CLAIMS 1 AND 21-31 UNDER THE FIRST PARAGRAPH OF 35 U.S.C. §**

16 **112**

17 For convenience of the Honorable Board in addressing the rejections, claims 21-31 stand
18 or fall together with independent claim 1.

19
20 Independent claim 1 is directed to a "method for ranking services" (emphasis added). 35
21 U.S.C. § 101 states that:

22 Whoever invents or discovers any new and useful process, machine,
23 manufacture, or composition of matter, or any new and useful improvement

1 thereof, may obtain a patent therefor, subject to the conditions and requirements
2 of this title.

3
4 Within In re Bilski, 545 F.3d 943 (Fed. Cir. 2008) (en banc), the Federal Circuit
5 "[clarified] the standards applicable in determining whether a claimed method constitutes a
6 statutory 'process' under § 101." The Federal Circuit framed the issue as to whether a claimed
7 method constitutes a statutory process as follows:

8 The true issue before us then is whether Applicants are seeking to claim a fundamental
9 principle (such as an abstract idea) or a mental process. And the underlying legal question thus
10 presented is what test or set of criteria governs the determination by the Patent and Trademark
11 Office ("PTO") or courts as to whether a claim to a process is patentable under § 101 or,
12 conversely, is drawn to unpatentable subject matter because it claims only a fundamental
13 principle.

14
15 At the outset, Appellant notes that the Examiner has neither alleged nor provided any substantial
16 evidence to support a finding that claim 1 attempts to claim either a fundamental principle or a
17 mental process. Therefore, the Examiner's has failed to set forth a prima facie case under 35
18 U.S.C. § 101.

19
20 Claim 1 also recites "invoking services of at least one level of hierarchy." As also recited
21 in claim 1, the services being referred to are web services. The term "web service" is a term-of-
22 art that has a very specific meaning to those skilled in the art. A discussion of web services is
23 found within the Background of Invention portion of Appellant's specification. Not inconsistent
24 with this discussion within Appellant's specification, the following is a description of Web
25 service:⁴

26 A Web service is a software system designed to support interoperable machine-to-machine
27 interaction over a network. It has an interface described in a machine-processable format
28 (specifically WSDL). Other systems interact with the Web service in a manner prescribed by its
29 description using SOAP messages, typically conveyed using HTTP with an XML serialization in
30 conjunction with other Web-related standards.

⁴ <http://www.w3.org/TR/ws-gloss/>.

1
2 To be clear, the W3C (i.e., World Wide Web Consortium) is the main international standards
3 organization for the World Wide Web. As such, to those skilled in the art, W3C represents the
4 last word when it comes to standards regarding the internet. To invoke is "to put into effect or
5 operation,"⁵ and thus, to invoke services, as claimed, involves putting into operation a software
6 system. As would be recognized by those skilled in the art, putting into operation a software
7 system necessarily requires the use of a machine. Moreover, not only are not all machines so
8 capable, not even are computers are capable of putting into operation of the particular type of
9 software system referred to in claim 1. Therefore, claim 1 is tied to a particular machine and is
10 not solely a mental process.

11
12 Based upon the above-claim construction, claim 1 is clearly not a mental process since
13 claim 1 is being performed with a machine. The only other issue that need be addressed is
14 whether or not "[Appellant's] claim recites a fundamental principle and, if so, whether it would
15 pre-empt substantially all uses of that fundamental principle if allowed." Biliski at ___. The
16 Examiner has not alleged that claim 1 is directed to a fundamental principle or even
17 characterized what that "fundamental principle" might be. Thus, there is no need to determine if
18 claim 1 preempts substantially all uses of the (unidentified) fundamental principle.

19
20 However, should the Examiner put forth substantial evidence to establish that claim 1
21 recites a fundamental principle, the Federal Circuit within In re Bilski looked to the following
22 test to determine whether a process claim is narrowly tailored so as to not preempt all uses of the
23 fundamental principle:

⁵ <http://www.merriam-webster.com/dictionary/invoke>.

1 A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or
2 apparatus, or (2) it transforms a particular article into a different state or thing.
3

4 Thus, the machine-or-transformation test is a two-branched inquiry – a method claim satisfies 35
5 U.S.C. § 101 by being tied to a particular machine or transforming an article. Gottschalk v.
6 Benson, 409 U.S. 63, 70 (1972).
7

8 Turning to the first branch, as already noted above, claim 1 is necessarily tied to a
9 particular machine. Thus, since the method of claim 1 is tied to a particular machine and meets
10 the first test, claim 1 is directed to statutory subject matter under 35 U.S.C. § 101.
11

12 **THE REJECTION OF CLAIMS 1, 13, 21, AND 27-37 UNDER 35 U.S.C. § 103 FOR**
13 **OBVIOUSNESS BASED UPON MENDELEVITCH**

14 For convenience of the Honorable Board in addressing the rejections, claims 13, 21, and
15 27-37 stand or fall together with independent claim 1.
16

17 On October 10, 2007, the Patent Office issued the "Examination Guidelines for
18 Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in KSR
19 International Co. v. Teleflex Inc.," 72 Fed. Reg. 57,526 (2007) (hereinafter the Examination
20 Guidelines). Section III is entitled "Rationales To Support Rejections Under 35 U.S.C. 103."
21 Within this section is the following quote from the Supreme Court: "rejections on obviousness
22 grounds cannot be sustained by merely conclusory statements; instead there must be some
23 articulated reasoning with some rational underpinning to support the legal conclusion of
24 obviousness." KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1741 (2007) (quoting In re Kahn,
25 441 F.3d 977, 988 (Fed. Cir. 2006)).

Referring to the paragraph entitled "Office Personnel as Factfinders" on page 57,527 of the Examination guidelines, the following was stated:

Office personnel fulfill the critical role of factfinder when resolving the *Graham* inquiries. It must be remembered that while the ultimate determination of obviousness is a legal conclusion, the underlying *Graham* inquiries are factual. When making an obviousness rejection, Office personnel must therefore ensure that the written record includes findings of fact concerning the state of the art and the teachings of the references applied. In certain circumstances, it may also be important to include explicit findings as to how a person of ordinary skill would have understood prior art teachings, or what a person of ordinary skill would have known or could have done. Factual findings made by Office personnel are the necessary underpinnings to establish obviousness.

In Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), the Supreme Court set forth the factual inquiries that are to be applied when establishing a background for determining obviousness under 35 U.S.C. 103. These factual inquiries are summarized as follows:

- (A) Determine the scope and content of the prior art;
- (B) Ascertain the differences between the prior art and the claims at issue;
- (C) Resolve the level of ordinary skill in the pertinent art; and
- (D) Evaluate any indicia of nonobviousness.

However, in order to make a proper comparison between the claimed invention and the prior art, the language of the claims must first be properly construed. See In re Paulsen, 30 F.3d 1475, 1479 (Fed. Cir. 1994). See also, Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1567-68 (Fed. Cir. 1987) (In making a patentability determination, analysis must begin with the question, "what is the invention claimed?" since "[c]laim interpretation, ... will normally control the

remainder of the decisional process.") See Gechter v. Davidson, 116 F.3d 1454, 1460 (Fed. Cir. 1997) (requiring explicit claim construction as to any terms in dispute).

Non-analogous prior art

At the outset, Appellant notes that the Examiner's sole cited reference is non-analogous prior art. Whether a prior art reference is from a nonanalogous art involves (a) determining whether the reference is within the same field of endeavor and (b) determining whether the reference is reasonably pertinent to a known problem in the art. In re Clay, 23 USPQ2d 1058 (Fed Cir. 1992). If the prior art is outside the inventor's field of endeavor, the inventor will only be presumed to have knowledge of prior art that is reasonably pertinent to a known need or problem in the field of endeavor. KSR International Co. v. Teleflex Inc., 550 U.S. ___, ___, 82 USPQ2d 1385, 1397 (2007). The Examiner is also charged to consider "the reality of the circumstances' ... in other words, common sense" to determine what field a person of ordinary skill in the art would reasonably be expected to look. In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). With regard to this issue, the Examiner is also referred to M.P.E.P. § 2141.01, entitled "Analogous and Nonanalogous Art."

Whereas the claimed invention is directed to ranking services in a web services architecture, Mendelevitch is directed to categorizing incoming documents into topics. These are entirely different fields of endeavors. Since the Examiner has failed to establish that Mendelevitch is reasonably pertinent to a known need or problem in the field of endeavor, Mendelevitch is non-analogous prior art that cannot be properly applied against the claimed

1 invention. That Mendelevitch is non-analogous prior art is supported by the large list of items
2 that, on page 8 of the First Office Action, the Examiner admits that Mendelevitch fails to teach.

3
4 Mendelevitch fails to teach most limitations

5 Not only does the Examiner admit that Mendelevitch fail to teach many of the claimed
6 limitations, the Examiner has failed to discharge the duty of performing a proper Graham
7 analysis. Specifically, the Examiner has both failed to properly characterize the scope and
8 content of the applied prior art and failed to properly ascertain the differences between the
9 applied prior art and the claims at issue. On pages 9 and 10 of the Second Office Action, the
10 Examiner continually refers to Mendelevitch as teaching certain limitations associated with
11 "services." However, none of the teachings being relied upon by the Examiner are teaching the
12 "services," as claimed. The passages cited by the Examiner deal with documents, not services.

13
14 As another example, claim 1 recites "indicating a preference regarding at least one
15 service," for which the Examiner cited paragraphs [0014] and [0047] of Mendelevitch. Although
16 paragraph [0014] refers to a "user configurable threshold," there is no disclosure that this user
17 configurable threshold (presumably corresponding to the claimed "preference") regards at least
18 one service (or even document). Instead, the configurable threshold appears to be unrelated to
19 any service or document.

20
21 Regarding the claimed "finding a set of possible lower-level services, by a service, using
22 a directory at each level of the hierarchy," on pages 9 and 10 of the First Office Action, the
23 Examiner cited paragraph [0013] and claim 13 while also stating "a set of documents are

1 searched through a database [directory] which is arranged in a hierarchy structure." The
2 Examiner's disregard for the precise language of the claims is astounding. For example, the
3 language refers to using a directory at each level of the hierarchy. However, this concept has
4 been complete ignored within the Examiner's analysis. The claim language also refers to a
5 service finding lower-level services. This concept is also ignored within the Examiner's analysis.

6
7 Referring to pages 11 and 12 of the Second Office Action, Appellant is incredulous that
8 the Examiner would assert:

9 However, the Examiner asserts that the data stored in the directory is directed to non-
10 functional descriptive subject matter. That is to say, the type of data, i.e., lower-level services,
11 level of services, service requestors, and service providers, does not affect how the method is
12 stored or stores the information. The type of data adds little, if anything, to the claim's structure,
13 and thus, does not serve as a limitation on the claims to distinguish over the prior art. As claimed
14 the steps of the invention would be performed in the same manner regardless of the type of data
15 that is being processed or stored.

16
17 When determining whether a claim is obvious, an examiner must make "a searching comparison
18 of the claimed invention - *including all its limitations* - with the teaching of the prior art." In re
19 Ochiai, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis added). Thus, "obviousness requires a
20 suggestion of all limitations in a claim." CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333,
21 1342 (Fed. Cir. 2003) (citing In re Royka, 490 F.2d 981, 985 (CCPA 1974)). By refusing to give
22 patentable weight to all the limitations at issue, the Examiner has committed clear legal error.

23
24 Notwithstanding the Examiner committing legal error by failing to consider all of the
25 limitations of the claim, the Examiner's analysis is predicated upon wrong assumptions. The
26 type of data being processed, stored, manipulated, etc., absolutely affects how any particular
27 method involving those steps is performed. For the Examiner to infer otherwise evidences an
28 exceptional lack of knowledge with regarding to computer-implemented devices/methodology.

1 If, for example, the expected data is not in the form required for processing/storing/manipulating,
2 then an error can occur and/or the data is not proper processed/stored/manipulated. In a more
3 particular example, if a method of numerically adding two inputs receives, as inputs, the letters
4 "j" and "k," then the adding step will not be performed.

5
6 The above-reproduced arguments (incorporated herein) were substantially previously-
7 presented on page 14, line 5 through page 17, line 9 of the First Amendment. Although the
8 Examiner presents responsive arguments on pages 15-19 of the Second Office Action, the crux
9 of the Examiner's argument and clear evidence of Examiner error is found in the last full
10 paragraph on page 15 of the Second Office Action and is reproduced below:

11 Specifically, the Examiner has stated in the rejection that the type of data that is being
12 analyzed is nothing more than non-functional descriptive subject matter. It is asserted that the
13 claimed invention is nothing more than a program that allows a user to rank, i.e. reorganize, data.
14 What that data is supposed to be is completely irrelevant to how the invention is carried out. One
15 of ordinary skill in the art would have recognized that the claimed invention would perform the
16 same regardless of what data is being analyzed. (emphasis added)
17

18 Despite the Examiner's factually unsupported assertion to the contrary, what the type of data
19 being analyzed is entirely relevant to how the invention is carried out.

20
21 By way of absurd example to match the Examiner's absurd analysis, consider that the
22 data to be ranked is chickens. Specifically, the data describes the weight of the chickens. If the
23 Examiner's assertion that "[w]hat that data is supposed to be is completely irrelevant to how the
24 invention is carried out," then the Examiner should be able to explain how the methodology of
25 claim 1 can be employed to rank chickens. This is a rhetorical request since the Examiner would
26 be unable to rank chickens using the methodology of claim 1. For example, chickens (like the
27 documents of the Examiner's cited reference within Mendelevitch) are not services. Moreover,
28 Appellant is unclear as to how chickens (or the documents of Mendelevitch) fit within the claim

1 language of "a web services architecture having a hierarchy of services." Still further, Appellant
2 is unclear how it would be possible, while employing the data about chickens (or the documents
3 of Mendelevitch) to "[find] a set of possible lower-level services." For example, Appellant could
4 not even guess as to what would be the "set of possible lower-level services" associated with data
5 about chickens (or the documents of Mendelevitch). These identified inconsistencies between
6 the Examiner's assertion as to "[o]ne of ordinary skill in the art would have recognized that the
7 claimed invention would perform the same regardless of what data is being analyzed" and reality
8 are only a small subset of the inconsistencies that Appellant can identify. However, to avoid
9 belaboring the point, Appellant will stop at those inconsistencies already identified.

11
12 In the second full paragraph on page 16 of the Second Office Action, the Examiner
13 asserted the following:

14 To be more specific, the Examiner asserts that the claimed invention is nothing more than
15 the ranking of information and that one of ordinary skill in the art would have recognized that
16 whether it is directed towards ranking services or documents the steps are still being performed the
17 same. (emphasis added)
18

19 As evident from the above-reproduced passage, the Examiner has distilled the invention down to
20 "the ranking of information." However, distilling an invention down to the "gist" or "thrust" of
21 an invention disregards the requirement of analyzing the subject matter "as a whole." W.L. Gore
22 & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied,
23 469 U.S. 851 (1984). Thus, the Examiner's analysis has ignored the specific limitations being
24 claimed.

25
26 Not only has the Examiner improperly attempted to ignore the claimed invention, as a

1 whole, the Examiner's analysis is internally inconsistent. On one hand, referring to page 5 of the
2 Second Office Action, the Examiner asserted the "the step of ranking the services" was omitted
3 from the claims. However, on the other hand, the Examiner is asserting that the claimed
4 invention is "nothing more than the ranking of information." Assuming arguendo that the "step
5 of ranking the services" was omitted from the claims, as alleged by the Examiner, then the
6 claimed invention must necessarily be directed to more than the ranking of information –
7 contrary to the Examiner's assertion.

8
9
10 In the last two full paragraphs on page 16 of the Second Office Action, the Examiner
11 asserted the following:

12 Regarding the applicant's argument that **Mendelevitch** is only directed towards
13 categorizing the information is incorrect. As seen in **Page 1 Paragraph 12**, **Mendelevitch** is
14 directed towards classification and **ranking**.

15 As a result, the Examiner asserts that **Mendelevitch** is, indeed, analogous art since the
16 claimed invention and **Mendelevitch** are both directed towards the ranking of information. Since
17 the Examiner has clearly stated that **Mendelevitch** is analogous art and does, indeed, perform the
18 steps as disclosed in the claimed invention it is being further asserted that the scope and content of
19 the applied prior art are being properly characterized. (emphasis in original)
20

21 At the outset, Appellant notes that the Examiner has mischaracterized Appellant's
22 previous comments. Appellant did not argue that "Mendelevitch is only directed towards
23 categorizing the information" (emphasis added). Instead, Appellant wrote "Mendelevitch is
24 directed to categorizing incoming documents into topics." Although Mendelevitch does refer to
25 ranking, this ranking is an integral part of the categorization taught by Mendelevitch.
26 Specifically, referring to paragraph [0051], Mendelevitch teaches:

27 2. Ranking. A confidence score is calculated for each document-topic association that
28 was determined during classification. This confidence score provides a measure of the degree to
29 which the document does in fact belong to that particular topic.
30

1 Thus, Appellant's prior categorization of Mendelevitch is accurate.

2
3 The Examiner's assertion that since both Mendelevitch and the claimed invention are
4 both directed to "the ranking of information" constitutes gross over-reaching by the Examiner. If
5 the Examiner's "field of endeavor" is accurate, then the Examiner could pull in teachings as
6 disparate as the ranking of chickens based upon weight, the ranking of different qualities of
7 aluminum alloys, to the ranking of different types of gasoline, to the ranking of graduate
8 programs, to the ranking of pages returned by a website, to tennis rankings. All of these involve
9 the ranking of "information." However, Appellant's position is that all of these are not within the
10 same field of endeavor.

11
12 In Wang Laboratories, Inc. v. Toshiba Corp., 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir.
13 1993), the patent claims were directed to single in-line memory modules (SIMMs) for
14 installation on a printed circuit motherboard for use in personal computers. A reference
15 describing a SIMM for an industrial controller was held to not necessarily be in the same field of
16 endeavor as the claimed subject matter merely because it related to memories. Instead, the Court
17 held that the reference was found to be in a different field of endeavor because it involved
18 memory circuits in which modules of varying sizes may be added or replaced, whereas the
19 claimed invention involved compact modular memories. Although a field of endeavor of
20 "memory devices" would certain be a more focused field than the Examiner field of endeavor of
21 "ranking of information," the Federal Circuit held that such a field of endeavor was still too
22 broad. Appellant's position is that the Examiner's proposed field of the endeavor is overly broad
23 and encompasses incredibly disparate concepts – more so than the field of endeavors discussed

1 within Wang Laboratories and held by the Federal Circuit as not being within the same field of
2 endeavor. Therefore, Appellant maintains that Mendelevitch is non-analogous prior art.

3
4

5 On page 17 of the Second Office Action, the Examiner asserted the following:

6 As can be seen here, **Mendelevitch** does, indeed, disclose that a preference (threshold) is
7 being indicated and that it is in regards to a selected piece of information (see discussion above
8 regarding non-functional descriptive subject matter and that documents and services can be used
9 interchangeably without changing the steps of the invention). In other words, **Mendelevitch**
10 discloses that the threshold is, indeed, related to the document since it is being used by the ranking
11 module in order to determine whether the document falls within the user's preference (threshold).
12 That is to say, the ranking module uses the threshold (preference) indicated by the user as a means
13 of ranking the documents. (emphasis added)
14

15 To follow upon the theme already touched upon above, the Examiner's analysis is not predicated
16 upon establishing that the applied prior art renders the claimed invention obvious. Instead, the
17 Examiner's analysis is predicated upon improperly ignoring most of the claimed inventions under
18 the rubric that they are "non-functional descriptive subject matter." Similar assertions presented
19 by the Examiner regarding "non-functional descriptive subject matter" is also found in the thirty-
20 second enumerated paragraph on pages 17 and 18 of the Second Office Action.

21
22 Mischaracterizes Mendelevitch

23 Notwithstanding that the Examiner has ignored most of the claimed limitations, the
24 Examiner has failed to even properly characterize the teachings of Mendelevitch that the
25 Examiner is relying upon. For example, the Examiner asserts that "the ranking module uses the
26 threshold (preference) indicated by the user as a means of ranking the documents." This
27 statement, however, is inaccurate. The ranking module described by Mendelevitch produces a
28 ranking, which as described in paragraph [0051] as a confidence score. After the confidence
29 score (i.e., the ranking) has been calculated for a particular document and after the classification

1 algorithm has been applied to the document, this confidence score is compared to a user-
2 configurable threshold (see claim 1 of Mendelevitch). Based upon this comparison (and the
3 topic to which the document has been classified), the document is categorized with a first list for
4 the topic or a second list for the topic. Thus, the ranking module does not use the threshold (i.e.,
5 allegedly corresponding to the claimed preference) for ranking. Instead, the threshold is used
6 after ranking.

8
9 Appellant's position is that the claimed invention does not recite "non-functional
10 descriptive subject matter," as alleged by the Examiner. Claim 1 is a method that performs a
11 variety of steps including "indicating a preference ...," "invoking services ...," "finding a set of
12 possible lower-level services," and "applying the choice algorithm." Although these steps
13 employ data structures (e.g., preference. hierarchy, level of the hierarchy) and computer
14 programs (e.g., services), this functional descriptive material imparts functionality while being
15 employed as part of a computer system.

16
17 Similarly, independent claim 13 recites components of a computer hard device to which
18 the data structures (e.g., preference and hierarchy) and computer programs (e.g., services) impart
19 functionality. For example, the ranking machine provides "a sequence of preferred services"
20 (i.e., a specific data structure) because the "hierarchy of services" or a "requestor's preference
21 regarding one or more services" impart functionality to the ranking machine. Therefore, the
22 Examiner has improperly characterized the claim limitations at issue as being "non-functional
23 descriptive subject matter."

1

2 Conclusion

3 Based upon the foregoing, Appellant respectfully submits that the Examiner's rejections
4 under 35 U.S.C. §§ 101, 103, 112 is not viable. Appellant, therefore, respectfully solicits the
5 Honorable Board to reverse the Examiner's rejections under 35 U.S.C. §§ 101, 103, 112.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due under 37 C.F.R. §§ 1.17, 41.20, and in connection with the filing of this paper, including extension of time fees, to Deposit Account 09-0461, and please credit any excess fees to such deposit account.

Date: February 14, 2010

Respectfully submitted,

/Scott D. Paul/

Scott D. Paul

Registration No. 42,984

Steven M. Greenberg

Registration No. 44,725

Phone: (561) 922-3845

CUSTOMER NUMBER 46320

VIII. CLAIMS APPENDIX

1. A method for ranking services in a web services computer hardware architecture having a hierarchy of services with a root originating service requestor, a service of a first level in the hierarchy calling a service of a lower level, the method comprising:

indicating a preference regarding at least one service and a ranking machine having a choice algorithm based on the preference;

invoking services of at least one level of hierarchy;

finding a set of possible lower-level services, by a service, using a directory at each level of the hierarchy;

applying the choice algorithm to the set of possible lower-level services.

13. A web services computer hardware architecture comprising:

a root originating service requester;

a database storing a hierarchy of services in which a service of a first level calls a service of a lower level;

a directory for finding services in the hierarchy;

a ranking machine configured to apply a choice algorithm for services based on the originating service requestor's preference regarding one or more services; wherein

at each level of the hierarchy, the directory provides a set of possible services and the ranking machine applies the choice algorithm to provide a sequence of preferred services.

20. A computer program product for a web services architecture having a hierarchy of services with a root originating service requestor, a service of a first level calling a service of a lower level, the computer program product comprising:

a computer readable medium having computer readable program code embodied therein, the computer readable program code comprising computer readable program code configured to cause a computer to perform the operations of:

indicating a preference regarding at least one service and a ranking machine having a choice algorithm based on the preference;

invoking services of at least one level of hierarchy;

finding a set of possible lower-level services by a service using a directory at each level of the hierarchy;

applying the choice algorithm to the set of possible lower-level services.

21. The method according to claim 1, wherein the lower-level services are selected from service requestors and service providers.

22. The method according to claim 1, further comprising:

referring the set of possible lower-level services to the ranking machine from the directory, and

returning a preferred sequence by the ranking machine to the directory.

23. The method according to claim 22, wherein

the referring is not visible to the service using the directory.

24. The method according to claim 1, further comprising:
- sending the set of possible lower-level services by the service using the directory to the ranking machine; and
- returning a preferred sequence by the ranking machine to the service.
25. The method according to claim 1, further comprising:
- returning a single result or a sequence of results to the service using the directory.
26. The method according to claim 1, wherein
- lower-level invocations of services in the hierarchy are not visible to higher-level services.
27. The method according to claim 1, wherein
- the preference comprises at least one of
- ranking services in an order in which the originating service requestor intends to use the services,
- excluding services from being used, and
- providing other selection-influencing criteria.
28. The method according to claim 1, wherein
- the preference is based upon quality of service criteria comprising at least one of cost, efficiency, speed, and reliability.

29. The method according to claim 1, wherein
the preference overrides a selection by the service using the directory.

30. The method according to claim 1, wherein
upon the preferred service not being available, a subsequent service is obtained by
reference to original preference.

31. The method according to claim 1, wherein
upon a stored preference not being available, the service using the directory making the
selection.

32. A web services computer hardware architecture according to claim 13, wherein
the lower-level services are selected from service requesters and service providers.

33. A web services computer hardware architecture according to claim 13, wherein
the ranking machine is connected to the directory by a port,
the set of possible services is referred to the ranking machine by the directory, and
the sequence of preferred services is returned to the directory by the ranking machine.

34. A web services computer hardware architecture according to claim 13, wherein
a service of a first level finds a service of a lower level using a UDDI directory.

35. A web services computer hardware architecture according to claim 34, wherein the ranking machine has a port on the UDDI directory and processes flows turning TModel bags into a selected set of TModels.

36. A web services computer hardware architecture according to claim 34, wherein each UDDI operation is referred to the ranking machine and returned as a sequence conforming with a preference of a service requestor.

37. A web services computer hardware architecture according to claim 34, wherein underlying UDDI application code:

carries out the referral, and
appends the location of the ranker machine to subsequent XML flow.

IX. EVIDENCE APPENDIX

No evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 of this title or of any other evidence entered by the Examiner has been relied upon by Appellant in this Appeal, and thus no evidence is attached hereto.

X. RELATED PROCEEDINGS APPENDIX

Since Appellant is unaware of any related appeals and interferences, no decision rendered by a court or the Board is attached hereto.